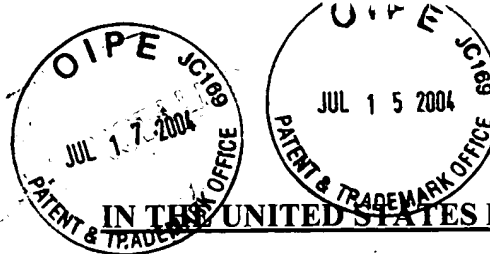


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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Harry E. Emerson, III, et al. Group Art Unit: 2162
 Serial No.: 09/477,936 Examiner: James W. Myhre
 Filed: January 5, 2000
 For: **SYSTEM FOR MODIFYING AND TARGETING ADVERTISING
 CONTENT OF INTERNET RADIO BROADCASTS**
 Docket No.: 0021-46

July 13, 2004

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BRIEF FOR APPELLANTS

This Brief is in furtherance of the Notice of Appeal dated December 26, 2003 in the above-identified application. This Brief is transmitted in triplicate pursuant to 37 C.F.R. 1.192(a).

Also submitted herewith is a Petition for the Extension of Time under 37 CFR 1.136(a) and the associated fee required under 37 CFR 1.17(a), requesting extension by five months of the time allowed for the filing of the instant Brief. In view of such petition, it is submitted that this Brief is timely filed.

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

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(1) Real Party in Interest

The real party in interest is SN Acquisition, L.L.C., as evidenced by an Assignment from SurferNETWORK.Com, Inc. to SN Acquisition, L.L.C., executed on August 8, 2001, and recorded on September 19, 2001, at reel 012177, frame 0215.

The instant application was previously the subject of an Assignment from Geode Electronics, LLC, to SurferNETWORK.Com, Inc., executed on June 1, 2001, and recorded on June 6, 2001, at reel 011862, frame 0589; and an Assignment from inventors Harry E. Emerson, III, William A. Grywalski, and Gerald M. LeBow to Geode Electronics, LLC, executed on January 4, 2000, and recorded on January 5, 2000, at reel 010486, frame 0707.

(2) Related Appeals and Interferences

There are no other appeals or interferences known to the applicant, to the appellant's legal representative, or to the assignee which will directly affect or be directly affected by, or have a bearing on, the Board's decision in the pending appeal.

(3) Status of Claims

The claims on appeal are claims 1 – 4 and 7 – 9. A copy of claims 1 – 4 and 7 – 9 is set forth in Appendix I.

Claims 5 – 6 and 10 – 12 have been cancelled.

Claims 1 – 4 and 7 – 9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,917,830 to Chen et al. in view of U.S. Patent 6,094,677 to Capek et al. and U.S. Patent 5,155,591 to Wachob.

(4) Status of Amendments

In response to a final Office Action dated March 27, 2003, applicants filed an amendment under 37 CFR 1.116 on August 25, 2003, which comprised a request for continued examination under 37 CFR 1.114 and a substantive response to the March 27 Office Action. The request for continued examination was accepted and the amendment entered. Applicants' submission filed on September 22, 2003, comprising an Information Disclosure Statement in accordance with 37 CFR 1.97(b), was also entered. By way of an Office Action dated November 18, 2003 in response to the August 25, 2003 amendment, claims 1 – 4 and 7 – 9 stand finally rejected.

(5) Summary of Invention

Applicants' invention, as recited by claims 1-4 and 7-9, provides a method and system for the delivery of broadcast radio programs via the Internet. Means are provided for replacing commercials present in the program material as simple bit serial streams. Packeted data containing the replacement commercials may be delivered simply, e.g. at a low rate of several kilobits a second, as opposed to the much higher rate (e.g. several megabits a second) required for delivering high quality video MPEG compressed data. Such a replacement is described in detail by page 4, line 21 of the original specification. Advertisements initially included by a radio station as part of program content are identified and replaced by substitute commercials inserted in the simple bit serial streams of digitized packeted data by an Internet hosting service. The Internet's bi-directional and individual connectivity allows selection and transmission of replacement commercials that are of particular interest or relevance to a particular user. Replacement is tailored for the user in accordance with that user's personal preferences, which

are passed to the Internet Audio System, e.g. by transmitting stored preferences during the login process. Demographic information characterizing the user may be maintained and used as a basis for this selection.

The ability to individualize and tailor program content is advantageous for an advertiser, as it allows the advertiser to allocate an advertising budget in a prudent and highly effective manner. Products may be touted to those consumers whose interests, personal characteristics (age, gender, marital status, and the like), location, and other comparable demographic characteristics make them likely to buy that product. On the other hand, the present system, as recited by claims 1-4 and 7-9, allows the advertiser to avoid wasting resources otherwise required to advertise products that a given user would likely not purchase or find appealing.

The replacement of advertisements is completely transparent to the user; such replacements are interposed solely at those points within the flow of program content which are preselected by the program director. As a result, the original program flow is not disrupted, either inadvertently or intentionally. The bit stream of Internet audio broadcast carries an information tag which identifies the insertion point of the replacement advertisement as well as the time duration of the advertisement. The Internet Hosting Service, which may be the Internet Service Provider, selects from its database a commercial that appropriately matches the user's preferences, including demographic data. Each user, whether listening via the Internet or by normal radio transmission, will hear and see advertising at the same point in the program, even though the advertising content to which different Internet-connected users are made privy may be differentiated in accordance with user profile, thereby permitting different users simultaneously to hear different advertising content.

(6) Issues

(a) Whether claims 1 – 4 and 7 – 9 should be rejected as unpatentable under 35 U.S.C. §103(a) over U.S. Patent 5,917,830 to Chen et al. in view of U.S. Patent 6,094,677 to Capek et al. and U.S. Patent 5,155,591 to Wachob.

(7) Grouping of Claims

Claims 1 and 2 stand or fall together.

Claims 3, 4, and 7 stand or fall individually.

Claims 8 to 9 stand or fall together.

(8) Argument

I. The interactive method for substituting replacement radio commercials of claim 1 and the interactive system for substituting broadcast commercial streams of claim 7 meet the conditions for patentability.

A. Independent claims 1 – 4 and 7 – 9 meet the conditions for patentability because neither Chen et al., Capek et al. nor Wachob, alone or in any combination, teaches or suggests the interactive method for substituting replacement radio commercials of claim 1 or the interactive system for substituting broadcast commercial streams of claim 7.

The Examiner has rejected claims 1 – 4 and 7 – 9 under 35 USC §103(a) on the following basis:

Claims 1-4 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (5,917,830) in view of Capek et al (6,094,677) and Wachob (5,155,591).

With respect to claims 1 and 7, the Examiner has stated:

Claims 1 and 7: Chen discloses a system and method for substituting advertisements during a broadcast stream, comprising:

- a. Generating, digitizing, and storing a plurality of replacement commercials (e.g. advertisements) for insertion into the broadcast stream (col. 4, lines 39-41 and col. 13, lines 15-20);**
- b. Marking the broadcast with the start and end times (e.g. duration) of the commercial (col. 2, lines 18-21; col. 6, line 66 - col. 7, line 10; and col. 13, lines 15-20);**
- c. Receive the broadcast stream (col. 13, lines 57-62);**
- d. Detect and read the insertion marker on the broadcast stream (col. 6, lines 1-10 and col. 12, lines 36-37);**
- e. Select and substitute (insert) a replacement commercial into the broadcast stream at a point corresponding to the insertion marker (col. 8, lines 1-5 and col. 14, lines 3-12); and**
- f. Repeat the detection and insertion of replacement commercials throughout the broadcast stream (col. 13, line 61 - col. 14, line 7).**

While Chen uses a network television broadcast as an exemplary use of the invention, it is also disclosed that the invention can be applied “for splicing a secondary packetized data stream, such as a commercial, with a primary packetized data stream” (col. 4, lines 7-9) and that the secondary packetized data streams (commercials) being inserted (spliced) “may include digital audio tapes” or “compact audio discs (CDS)” (col. 4, lines 39-43) and that “audio only or data only messages may be inserted into the main packetized data stream” (col. 4, lines 57-59). The Applicant’s invention is directed to inserting a replacement commercial into a radio broadcast being received via the Internet. The Examiner notes that both radio and television broadcasts may be received via the Internet, and that both are “packetized data streams”. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made that the packetized data stream into which Chen is inserting commercials could contain either audio/video data (i.e. television) or only audio data (i.e. radio). One would have been motivated to use Chen’s system and method to insert commercials into a radio broadcast in view of his disclosure of inserting audio only data and storing digital audio tapes.

Applicants respectfully traverse the Examiner’s contention that Chen et al. discloses the system and method delineated by present claims 1 and 7. Although the entirety of Chen et al.’s disclosure, beginning with the title of the invention [“Splicing Compressed Packetized Digital Video Streams” (emphasis added)] and continuing throughout, is directed solely to insertions

made in a digital video stream of the type used in a cable television system, the Examiner has nonetheless alleged that the Chen et al. disclosure applies to an Internet-based audio radio system, based on his identification of radio broadcasts received by the Internet as being “packetized data streams.”

Applicants further traverse the Examiner’s alleged motivation to modify the method and system disclosed by Chen et al. to permit insertion of commercials into a radio broadcast. The Examiner has pointed to Chen et al.’s storage unit, which is said to include a digitized library of advertisements that may reside on digital audio tapes, digital video disks, compact audio discs, or other magnetic or optical storage media. Significantly, the very passage of Chen et al. (col. 4, lines 39-43) cited by the Examiner in support of the motivation (see page 4, line 1, of the November 18, 2003 Office Action) includes the statement that the “advertisements (e.g., commercials) [] are available to insert into the network television program” (col. 4, line 41, emphasis added). The November 18, 2003 Office Action pointedly omits any reference to “network television program” in the discussion of the motivation to modify, but instead referred only to radio broadcasts. Applicants respectfully submit that the Examiner has thereby engaged in impermissible hindsight reconstruction by treating television, as disclosed by Chen et al., as equivalent to radio, which is taken from applicants’ own disclosure.

The Examiner maintains, although without having pointed to any specific art reference, that both radio and television broadcasts may be received by the Internet. However, the Chen et al. reference is also conspicuously devoid of any reference whatsoever to any computer network, let alone the Internet. There is simply no recognition in the Chen et al. disclosure of any technique related to broadcast or advertising content disseminated via the Internet, despite the

availability and widespread use of the Internet as of the filing date of the Chen et al. application and the purported knowledge that radio and television broadcasts may be received via the Internet.

More particularly, the Examiner has indicated that while Chen et al. uses a network television broadcast as an exemplary use of the invention, it is also disclosed that the invention can be applied for splicing a secondary packetized data stream with a primary packetized data stream. However, applicants maintain this disclosure falls far short of the instant claimed method and system. Chen et al. does not disclose or suggest any packetized data stream delivered to an Internet hosting service, as required by claims 1 and 7 (and claims 2-4 and 8-9 dependent thereon). Instead, Chen et al. merely contemplates such packetized data streams as a mechanism for delivery of program material to a cable system headend.

Significantly, the Chen et al. reference does not disclose or suggest any system that employs a connection via the Internet, even for transmitting packetized data to a personal computer. In particular, the only disclosure of a personal computer in Chen et al. is in connection with Fig. 1, e.g. at col. 5, lines 14-17. It is said that personal computer 174 may be connected to Digital Entertainment Terminal (DET) decoder 168. The DET decodes a packetized data stream received via a coax distribution network, and the signal is seamlessly delivered for display to the subscriber. The coax network, in turn, is fed by optical node unit 146, which supports conversion of information it receives optically into electrical information, as well as accomplishing the required modulation/demodulation. The Chen et al. system thus entails use of an elaborate infrastructure requiring specialized, dedicated hardware, e.g. of the type associated with a cable television system. Applicant's method and system are thus far more

easily and economically practiced, using the existing infrastructure of the Internet. The marked simplicity of the Internet-based approach afforded by the method and system of applicant's amended claims 1-4 and 7-9 provides ample basis for patentably distinguishing the Chen et al. system.

The distinction between Chen et al.'s network broadcast delivery and the present Internet-based system as recited by claim 7 is also related to a difference in required data rates. More specifically, Chen et al. disclose delivery of high quality video data which is only possible with high bit rate transmissions (megabits per second). The data delivery in the Chen et al. system proceeds at a rate of many megabits a second, e.g. the 155.52 Mb/s rate disclosed at col. 4, lines 22-24. Such data rates are not possible in many common forms by which users connect their computers or other data appliances to an Internet Service Provider, e.g. by a dial-up telephone modem. Although techniques now exist for delivering streaming audio and video to users through the Internet at the modest data rates of typical dial-up modems [e.g. with systems provided by RealNetworks (e.g. RealPlayer) or Microsoft (e.g., Windows Media Player)], such methods generally have a quality that falls short of that contemplated in any Chen et al. method, a consequence, in part, of the much higher required data rates contemplated by Chen et al.

Accordingly, a vast number of users lacking a connection of the quality demanded by Chen et al. would be unable to use any system constructed in accordance with the Chen et al. patent. On the other hand, applicants' system and method does not rely on the high-speed link required by Chen et al. Much lower speeds, such as those normally afforded using a dial-up telephone modem connection to an Internet Service Provider, are ample, although higher data rate connections are also possible. On the other hand, reconstruction of the Chen et al. system to

accommodate these low-speed connections would render it unable to carry out the dissemination of network-quality data. As a result, it is respectfully submitted that the combined teachings of the cited references point away from applicants' claimed invention and, as such, cannot serve as predicates for a prima facie case of obviousness. ["If when combined, the references 'would produce a seemingly inoperative device,' then they teach away from their combination." *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 52 USPQ 2d 1294, 1298 (Fed. Cir. 1999) (quoting *In re Sponnoble*, 160 USPQ 237, 244 (C.C.P.A. 1969).]

Furthermore, Chen et al. discloses only uni-directional cable transmission to the end subscribers within a given system, all of whom thus receive identical signals. Significantly, Chen et al. does not recognize any advantage, feature, or functionality that would be possible only with bi-directional communication. Inherently, a cable system delivers one or more broadcast channels to its subscribers. However, the Examiner has not pointed to any disclosure or suggestion in Chen that customizes the content received by each individual subscriber. Rather, each subscriber receives the same content on each channel carried by the system. The present system, which includes individual, bi-directional communication inherently afforded by an Internet connection, makes it possible to individually select advertisements and substitute them for extant general advertisements in streaming program content. Lacking individual, bi-directional communication, any system constructed in accordance with Chen et al. inherently cannot carry out these features, which are required by applicants' claims, e.g. by features (l) and (m) of claim 1 and features (d), (g), and (h) of claim 7. Applicant respectfully maintains that the Examiner has not pointed to any motivation to implement the reconstruction of the Chen et al. system and method that would be needed to incorporate features required in the present system,

including bi-directional communication. Even less is there any motivation to employ such bi-directional communication to implement features not disclosed, suggested, or otherwise recognized by Chen et al. It is respectfully submitted that the reconstruction required of the prior art system (i) is substantial; and (ii) is not fairly taught; this is so whether such reconstruction is carried out in connection with a system constructed according to the teachings of Chen et al., or in connection with a system constructed in light of the combined teachings of Chen et al., Capek et al. and Wachob. Such required reconstruction and redesign has been clearly held to preclude a finding of obviousness. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

Applicants' claims 1 and 7 still further call for a comparison between the lengths of the original broadcast commercials and the commercials being considered as replacements. The Examiner has correctly recognized that Chen et al. does not explicitly disclose a comparison made to determine whether the duration of the replacement commercial corresponds to the duration of the main commercial being replaced. However, the Examiner has pointed to Chen et al.'s teaching at col. 1, line 65 to col. 2, line 3, of avoiding discontinuity which results in a non-compliant data stream, and has indicated that such teaching implies the comparison of applicant's claims. Applicants respectfully submit that the purported comparison has not been established as inherent in the cited passage since T_{in} and T_{out} may be externally generated by the cable distribution system, as set forth in greater detail hereinbelow. The cable system reads the time in to begin inserting a replacement commercial. The insertion continues, regardless of the duration of the original commercial. In order not to lose content, incoming data that overlaps part of the commercial is cached and then retrieved only after the replacement commercial is complete. Null frames are added only to prevent the overflow of the decoder, thereby

maintaining continuity during these frame transitions. Surely the Chen et al. teaching of discontinuity avoidance is not equivalent to applicants' required comparison, since Chen et al. allows the packetized data stream to be altered so as to retain compliance without the commercials being of equivalent length.

As already noted, in the Chen et al. system, indicia marking the start and stop for commercial insertion (denoted as T_in and T_out, respectively) may be provided in the original compressed MPEG packetized data. Alternatively, the cable distribution system itself may provide external time signals for the insertion. [See, e.g., col. 2, lines 19-25, along with reference numeral 310 in Fig 3 and the definitions of T_in and T_out at col. 6, line 66, to col. 7, line 2.] Significantly, when a T_in marker is provided in the incoming compressed MPEG data, the cable distribution system of Chen et al. inserts the alternative commercial without having any knowledge of how long a commercial will be. The system continues to deliver the alternate advertisement in the delivery stream. When the T_out signal is received in the original incoming compressed MPEG data signal, indicating that the original advertisement is complete, the input stream is diverted into a memory storage (see col. 4, line 37) and is retrieved only after the commercial ends. The diversion has significant consequences. For example, as a result of such discontinuity, a particular TV program delivered through two different broadcast stations, for example, Philadelphia and New York, may not be transmitted in perfect synchrony due to differences in the lengths of advertisements incorporated in the different transmitted signals. Such lack of synchrony is also frequently experienced in simulcast programs wherein audio and video feeds are separately broadcast by respective television and radio stations. That is to say, attendant such simulcasts there is often a perceptible difference in timing between the two

signals, again resulting from a lack of matching among the lengths of insertions such as commercials. For these reasons, the Examiner's position that the existence of T_{in} and T_{out} signals in the Chen et al. system automatically discloses the length of a replacement commercial, e.g. as recited by feature (j) of claim 1, is respectfully traversed. Even less does such a disclosure render obvious the comparison feature (k) of claim 1 and the comparison means (f) of claim 7.

Advantageously, with the system delineated by applicants' claims 1-4 and 7-9, all listeners to the Internet radio receive output stream data at the same time without any time delay. In this light, it is respectfully submitted that the Chen et al. system cannot be properly reconstructed in the absence of applicants' own invention to achieve the objectives accomplished by any method and system according to applicants' claims. Such hindsight reconstruction, which requires use of the present application as a template, has repeatedly been held to be improper, e.g. in *Sensonics, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1570, 38 USPQ 2d 1551, 1554 (Fed. Cir. 1996).

The Examiner has further cited Capek et al. as supporting a comparison of the duration of a break and the duration of a proposed replacement commercial.

Capek et al. discloses methods, apparatuses and computer program products that provide information to a user during delays in retrieving program material in an Internet web browser data request from a remote server of an interactive system connected to a network. The information provided to the user is referred to as an insertion, since it is inserted into the Internet normal data stream by a local server in response to the user requested data that the user is waiting to receive. The Capek et al. method makes use of delays attendant to the vagaries of a network

such as the Internet, which cannot be easily predicted, to provide the user with an insertion that contains information which may be customized to either the user or the program material requested, or both. It is said that an expected length of delay for the receipt of the user requested data can be made and used as the basis for deciding whether or not to make an insertion. This in no way assures that the data provided by the local server actually matches the time delay that would occur in receiving the data from a remote server; and there is no real comparison of time in the Capek et al. method, since the data receipt time from the remote server is indeterminate and only estimated by the local server. Several means are suggested for determining whether the delay is sufficiently long for an insertion, including a perceived actual delay, historical knowledge of delays based on factors such as the time of day, location of the requested program material, and network management information regarding the congestion or traffic within the network. If made, the insertion may continue either until the requested material is received or for a predefined period of time. Capek et al. further discloses that while the insertion is being presented, the retrieved program material may be cached as it is being received. Significantly, Capek et al. does not contemplate the replacement of actual program content by substitute content, such as the substitution of replacement commercials for already extant broadcast radio commercials that applicant's claims require. Capek et al. does not disclose or suggest that incoming program content be monitored for already extant indicia that mark planned opportunities for inserting advertising material. Instead, Capek et al. merely contemplates addition of material inserted in gaps in the data stream being received. As such, practice of the Capek et al. teaching inevitably extends the length of time spent by the user, due to potential storage of retrieved data during delivery of data from the local server. Such extension is clearly

incompatible with radio broadcasting, which conventionally comprises on-going programming including segments of defined length and scheduling.

Furthermore, Capek et al. does not contemplate the use of programming content as a consideration in determining when or if an insertion is to be made. Rather, the determination is made based on an essentially random, opportunistic basis, i.e., the status of the Internet. Clearly, with the Capek et al. system, neither the originator of the programming content (the program director) nor the user/consumer has control. By way of contrast, applicants' invention as recited in amended claims 1-4 and 7-9, calls for replacement of already extant commercials. As such, replacements are made solely at points in the on-going program content which are under the control of the originating radio station.

As recognized by the Examiner, the Chen et al. method makes no comparison between the durations of the replacement commercial and the main stream commercial, which comparison is required, e.g. by step (j) of each of applicants' amended claims 1 and 7. The Examiner has cited col. 4, lines 43-51; col. 5, lines 23-28; and col. 9, lines 57-61 of the Capek et al. patent as disclosing a determination whether the duration of the insertion point is sufficiently long to allow insertion of a commercial. He then states that one could infer that the duration of each stored replacement commercial is known and used in the determination required by claim 1. However, step (k) of applicant's claim 1 requires "comparing said read duration time with said associated time lengths stored in said array." The "duration time," in turn, refers back to step (j), which calls for "reading the duration time of said commercial." Applicant respectfully submits that the comparison proposed by the Examiner is not the comparison required by applicant, because Capek et al.'s duration of the insertion point is altogether different. It is not the fixed,

predetermined duration of a commercial, but rather the variable duration of a delay in receiving data, i.e. a time period during which no program material is available as a result of the unpredictability of bandwidth on the Internet.

The determination of whether or not to insert in the Capek et al. system is said to be “based on a variety of factors” (column 9, line 67). The lack of certainty is further revealed by use of such words or phrases in Capek et al. as “expected delay” (column 10, line 12), “estimation” (column 10, line 21), and “approximately the same time” (column 10, line 25) (emphases added). The Examiner has identified the potential for blank time or overwriting if the main stream commercial and its replacement are not of equal duration. On the other hand, the method required by present claim 1 assures selection of a replacement commercial equal in length to the original commercial. In particular, the duration time determined according to step (j) of claim 1 provides a time certain whereby the selection called for by step (i) can be accomplished. In short, it is therefore respectfully submitted that the respective concepts of “duration” in the instant application and Capek et al. have been confounded in the Office Action by reliance on applicant’s own disclosure as a template.

Applicant/appellants respectfully submit that merely locating every element of claims 1 and 7 in one of the references of a proposed combination is insufficient to render the claims unpatentably obvious under 35 USC §103(a), absent a proper motivation to combine. As the Federal Circuit has stated in *In re Rouffet*, 47 USPQ 2d 1453, 1457 (Fed. Cir. 1998),

“ . . . ‘virtually all [inventions] are combinations of old elements.’ *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 698, 218 USPQ 865, 870 (Fed. Cir. 1983); *see also Richdel, Inc. v. Sunspool Corp.*, 714 F.2d 1573, 1579-80, 219 USPQ 8, 12 (Fed. Cir. 1983) (‘Most, if not all, inventions are combinations and mostly of old elements.’). Therefore an examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue.

Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be 'an illogical and inappropriate process by which to determine patentability.'" *Sensonics, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1570, 38 USPQ 2d 1551, 1554 (Fed. Cir. 1996).

As a consequence of the lack of certainty, the determinations of time made in Capek et al. are inferential and carry no reasonable expectation of certainty and success. That is to say, there is no basis adduced that could convey to a person of ordinary skill in the art a reasonable expectation that a system constructed in accordance with the combined teaching of Chen et al. and Capek et al. would successfully replace originally broadcast commercials with replacement commercials of the same duration, as recited by feature (l) of claim 1. Absent this reasonable expectation of success, it is submitted that an obviousness rejection is improper in the present instance. *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 56 USPQ 2d 1456, 1459 (Fed. Cir. 2000) (quoting *In re O'Farrell*, 853 F.2d 894, 903-904, 7 USPQ 2d 1673, 1681 (Fed. Cir. 1988))

Furthermore, it is respectfully submitted that any method practiced in light of the combined teachings of the Chen et al. and Capek et al. references must include the Capek et al. insertion step, wherein the propriety or desirability of inserting commercials at any point during the transmission of programmatic material based on the random, often chaotic status of the Internet, rather than at times during the course of a program that are intentionally chosen by the originator of an Internet radio program broadcast by a radio station.

The Examiner has noted that Capek et al. has been cited to support the tracking of start and end times of an advertising opportunity said to be inferred by Chen et al. However, it is well established that a proposed combination of references must be read as a whole. Capek et al.

clearly discloses insertion of advertising material, but only on the occasion of network delay. On the other hand, Capek et al. never discloses or suggests replacement of existing program content including commercials. Any method practiced in accordance with the combined teaching of Capek et al. and Chen et al. therefore contemplates insertion. The terms “insert” and “insertion” are expressly defined by Capek et al.: “For purposes of the present disclosure, the information provided to the user during the delays is referred to hereinafter as an insert or insertion” (col. 7, lines 14-16). The patentee’s express meaning is submitted to be controlling. (“[I]t is always necessary to review the specification to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning. The specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication.” *Vitronics v. Conceptronic, Inc.*, 90 F.3d 1582 39 U.S.P.Q.2d 1573).

As the Federal Circuit has ruled, “[P]rior art references before the tribunal must be read as a whole and consideration must be given where the references diverge and teach away from the claimed invention. . . . Moreover, appellants cannot pick and choose among individual parts of assorted prior art references ‘as a mosaic to recreate a facsimile of the claimed invention.’ ” *Akzo N.V. v. United States Int’l Trade Comm’n*, 1 USPQ 2d 1241, 1246 (Fed. Cir. 1986), *cert. denied*, 482 U.S. 909 (1987). The Federal Circuit ruled similarly in *In re Fritch*, 972 F. 2d 1260, 23 USPQ 2d 1780, 1783-84 (Fed. Cir. 1992):

“The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification...

“It is impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that ‘[o]ne

cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.” (quoting *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988)).

Applicants respectfully submit that the Examiner is engaging in the very hindsight reconstruction forbidden by the *Akzo* and *Fritch* courts by excluding the insertion aspect of Capek et al. Even assuming *arguendo* that the Capek et al. and Chen et al. references could be properly combined in the manner proposed by the Examiner, there would still exist no teaching, absent applicant’s own disclosure, that points away from insertion, including insertion at random points within a given program. Moreover, any such insertion effected in light of the combined teachings of the cited references would be subject to the vagaries of the Internet; and would be triggered by events other than the presence of a digital marker provided by the radio station during the initial transmission of program content.

In contrast to any method disclosed by the combined teachings of Chen et al. and Capek et al., the method called for by present claims 1-4 and 7-9 effects substitution of replacement commercials solely at those points in the on-going program content which are under the control of the originating radio station.

Creators of broadcast program content generally schedule commercial breaks with great care, based on aesthetic or programmatic considerations. For example, a producer might select a group of songs to be performed sequentially or a single extended musical work and expect the material to be carried without interruption. Similarly, it would be expected that a given scene that is part of a dramatic stage play would not be interrupted. A commercial would not be appropriate at a critical juncture in a sports event. Scheduling of commercials also entails legitimate business concerns. The sale of advertising is a business transaction between an

advertiser and either a commercial broadcaster or an Internet provider. In either case, the contractual relationship likely includes scheduling considerations. Highly undesirable intrusions by an inserted commercial would inevitably occur in any system based on the combined teachings of Chen et al. and Capek et al. Advertisers would be highly averse to any possibility that their wares might be tainted in the marketplace by being touted at inadvertent or inopportune times, contingent on vagaries of the Internet that are outside their control.

Applicants further maintain that any method alleged to be disclosed or suggested by the combination of the Chen et al., Capek et al. and Wachob references must be considered in light of the totality of the disclosure thereof. Applicants respectfully submit that merely locating every element of claims 1-4 and 7-9 in one of the references of a proposed combination is insufficient to render the claim unpatentable as being obvious under 35 USC §103(a), absent a proper motivation to combine. As the Federal Circuit has stated in *In re Rouffet*, 47 USPQ 2d 1453, 1457 (Fed. Cir. 1998),

“ . . . ‘virtually all [inventions] are combinations of old elements.’ *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 698, 218 USPQ 865, 870 (Fed. Cir. 1983); *see also Richdel, Inc. v. Sunspool Corp.*, 714 F.2d 1573, 1579-80, 219 USPQ 8, 12 (Fed. Cir. 1983) (‘Most, if not all, inventions are combinations and mostly of old elements.’). Therefore an examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue. Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be ‘an illogical and inappropriate process by which to determine patentability.’” *Sensonics, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1570, 38 USPQ 2d 1551, 1554 (Fed. Cir. 1996).

Applicants submit that elements of the cited references may neither be included nor excluded from the combined teaching, absent motivation to do so. In the present instance, the Capek et al. reference clearly discloses the step of inserting advertisements into program content at points determined by the vagaries of the Internet. Applicants respectfully maintain that the insertion step of Capek et al. is not merely one alternative embodiment, but a central feature of the Capek et al. disclosure. Any embodiment constructed in accordance with the Capek et al. disclosure, even when taken in light of the other references applied, must therefore include the insertion feature, absent a motivation to exclude it. Importantly, in the present instance, there has been adduced no motivation to exclude the insertion feature.

The Capek et al. insertion is clearly not foreseen by the original creators of program content. Yet apart from applicants' own teaching, there is no evidence of motivation, whether in the cited references or adduced by the Examiner, to preclude this possibility. Applicants respectfully maintain that any method practiced in light of the combined teachings of the cited references must therefore be presumed to include the Capek et al. insertion step. That insertion step would trigger insertion of commercials at random times. The disastrous results caused by insertion of commercials at inopportune times throughout the program would offend the user and discourage advertising support. None of the references recognizes this impediment, and the skilled person would not find motivation to avoid it.

The lack of predictability of the number of inserted commercials and their durations is a further deficiency of any system based on the combined teachings of Chen et al. and Capek et al. The insertion aspect of the Capek et al. disclosure suggests that insertions may be made if the status of the Internet causes delays in downloading material requested. A conventional

broadcasting schedule includes advertisements, the number and duration of which are pre-determined by the originating radio station. The method and system recited by applicants' claims 1-4 and 7-9 enable the advertiser and the Internet service provider to predict virtually to a certainty the number and duration of replacement advertisements. This level of expectation and predictability facilitates contractual arrangement for advertising support. Contractual certainty is readily established, since the number and duration of advertising segments, and hence the value of advertising time conveyed can be precisely defined. A method based on the combined teaching of Chen et al. and Capek et al. lacks such predictability, because the number and duration of commercials to be inserted is not determinable *a priori*.

The Examiner has further cited Wachob as disclosing the replacement of advertisements in broadcast based on the length of an impending commercial. Like Chen et al., Wachob employs a conventional cable television system, not the Internet, for disseminating program content. The Wachob cable system also delivers compressed MPEG digital packetized video data through cable, optical or satellite at a rate of several megabits per second. In the method delineated by present claims 1-4 and 7-9, a program with replacement commercials interspersed therein is assembled, e.g. by an Internet Service Provider, and disseminated via the Internet. By way of contrast, the Wachob process requires simultaneous dissemination of multiple commercials through a cable system to hardware associated with each user. Typically such hardware is located on each user's premises. The time duration of each commercial broadcast by the alternate video source is set for a fixed period by a timer to 15, 30 or 60 seconds (see col. 2, lines 24-28), regardless of the commercial duration of the broadcast program. Inherently, the Wachob system transmits plural commercials, of which only one is presented to the user. The

remaining commercials are transmitted needlessly, because they necessarily go unwatched. The advertisement actually presented to a given customer of the system is determined by actuation of a switching system located in the customer's premises. Wachob's system is thus much more cumbersome than applicant's method. It requires dedication of a discrete cable channel for each and every potential replacement advertisement, thereby rendering the channel unavailable for normal broadcast content. The Wachob system thus makes highly inefficient use of the limited bandwidth of a cable system. Whereas the number of possible replacements in applicant's system is easily expanded to a very large number, simply by provision of relatively inexpensive mass storage, expansion of the Wachob system is far more difficult. Practical and economic considerations strongly constrain the feasible repertoire of replacement advertisements in a system constructed in accordance with the Wachob disclosure, since each possible replacement for a given broadcast commercial entails provision of both storage and a separate cable channel for transmitting it to the customer's equipment. By using the capabilities of the Internet, applicant's system avoids the needless complication and wasted bandwidth inherent in any system wherein the selection is effected only at the communication node immediately connected to the user's television, computer, or similar device.

Accordingly, it is respectfully submitted that the method and system called for by present claims 1 and 7 is not rendered obvious by the combination of Wachob, Chen et al., and Capek et al.

B. Claim 2 (dependent from claim 1) meets the conditions for patentability because neither Chen et al., Capek et al., nor Wachob, either alone or in

combination, teaches or suggests the interactive method for substituting replacement radio commercials of claim 2.

Claim 2 was further rejected by the Examiner under 35 USC 103(a) as follows:

Claim 2: Chen, Capek, and Wachob disclose a method and system for substituting advertisements during a broadcast stream as in Claim 1 above. Chen also discloses that the marking of the start and end times of the insertion point is performed by the broadcast station (col. 6, line 66 - col. 7, line 10 and col. 13, lines 15-20).

With respect to claim 2, the Examiner has indicated that Chen et al. discloses the marking of start and end times of the insertion point by the broadcast station. However, as discussed hereinabove in connection with the rejection of claims 1 and 7, the combination of Wachob, Chen et al. and Capek et al. suggests random, not controlled insertion of replacement commercials. None of the references suggests insertion of commercials in an Internet radio broadcast, as required by applicants' claim 1, from which claim 2 depends. Applicants thus respectfully submit that any disclosure by Chen et al. concerning marking of start and stop times by a broadcast station does not cure the lack of suggestion in the reference concerning the combination of features required by claim 2, which depends from claim 1 and requires each of the claim 1 limitations.

C. Claim 3 (dependent from claims 1 and 2) meets the conditions for patentability because neither Chen et al., Capek et al., nor Wachob, either alone or in combination, teaches or suggests the interactive method for substituting replacement radio commercials of claim 3.

Claim 3 was further rejected by the Examiner under 35 USC 103(a) as follows:

Claim 3: Chen, Capek, and Wachob disclose a method and system for substituting advertisements during a broadcast stream as in Claim 2 above. Both Chen and Capek also disclose digitizing the audio stream into sequential packets to allow for presenting a series of packets in the proper order as one complete commercial (Chen, Fig. 6a, items A1-A11 and col. 14, lines 56-65) (Capek, col. 5, lines 14-16; col. 7, lines 42-47; and col. 8, line 59 - col. 9, line 5).

With respect to claim 3, the Examiner has pointed to disclosures in both Chen et al. and Capek et al. that an audio stream can be digitized to allow for presenting a series of packets in the proper order as one complete commercial. As discussed hereinabove in connection with claims 1, 2, and 7, applicants submit that Chen et al. discloses high speed transmission of compressed MPEG video data, whereas the applicants' claim 3 requires the presence of an uncompressed low Internet speed audio stream. Any audio insertion effected by the Chen et al. system results in a blank screen; the audio information exists in a compressed MPEG video data format. For this reason, the combined teachings of Chen et al. and Capek et al. do not disclose or suggest the combination of features required by independent claim 1, from which claim 3 depends. The citations regarding digitization that the Examiner has identified do not address these deficiencies. While Chen et al. and Wachob contemplate substitute advertisements, they do so in a way that does not afford the distribution of programming that is customized and distributed in that form to a given user. Instead, as discussed more fully in connection with the rejection of claims 1 and 7, Chen et al. provides only the distribution of a particular commercial that is identical for all users of the cable system, and Wachob requires distribution of multiple commercials, with the final selection being accomplished strictly by equipment at or near a user's own premises. Any system fashioned in light of the combined teaching of the cited references is thus far more cumbersome to design and operate; it would lack the elegance and

simplicity of applicants' system for delivering advertising to a consumer. It is therefore submitted that present claim 3 patentably defines over the art applied.

In addition, the Office Action of November 18, 2003 does not point to any disclosure or suggestion of the sequentially serialized packet numbers required by claim 3.

D. Claim 4 (dependent from claim 1) and claims 8 and 9 (dependent from claim 7) meet the conditions for patentability because neither Chen et al., Capek et al., nor Wachob, either alone or in combination, teaches or suggests the interactive method for substituting replacement radio commercials of claim 4 or the interactive system for substituting broadcast commercial streams of an Internet radio program stream of claims 8 and 9.

Claims 4, 8, and 9 were further rejected by the Examiner under 35 USC 103(a) as follows:

Claims 4, 8, and 9: Chen, Capek, and Wachob disclose a method and system for substituting advertisements during a broadcast stream as in Claims 1, 2, 3, and 7 above. While Chen does not explicitly disclose using consumer demographics to select (target/match) the replacement commercial, Capek discloses that the information "may be customized to either the user or the material requested, or both" (col. 4, lines 43-51 and col. 8, lines 7-58) and that "the insertion manager 20 them selects a customized insertion based upon the client profile for the requesting client" (col. 12, lines 32-39), or type of information requested (col. 12, lines 34-39). Wachob also discloses selecting the targeted advertisement "based on the viewer's demographic characteristics" (col. 2, lines 62-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to base the selection of the commercials in Chen upon how well it matches the consumer's demographic information. One would have been motivated to use this type of selection in Chen in order to present commercials which are more pertinent to the consumer ("to increase the users interest and to make the information more engaging", Capek, col. 7, lines 8-10), thus increasing the acceptance and interaction with the commercial by the consumer.

With respect to claims 4, 8, and 9, the Examiner has pointed to Capek et al.'s disclosure of customizing the information to be inserted into the program material.

As correctly recognized by the Examiner, Chen et al. does not explicitly disclose using customer demographics in the selection of a replacement commercial. However, as set forth hereinabove, applicants submit that the inherently unidirectional nature of the Chen et al. method and system inherently preclude the use of individualized customer demographics in the selection. Clearly Chen et al. disclose no means by which such demographic information or user preferences can be conveyed. Moreover, the Chen et al. disclosure provides no means by way of which such information, even if available, would or could be used in the process of making the selection called for either by step (l) of applicants' claim 1, as further defined by dependent claim 4, or by step (f) of claim 7, as further defined by each of dependent claims 8 and 9. Even less does the Chen et al. disclosure contemplate any mechanism by which the replacement can be customized for each individual recipient of the modified content. By way of contrast, the bi-directional and individualized connectivity of the Internet provides means that enable this customization to be accomplished in the form recited by claims 4, 8, and 9. That is to say, the present, Internet-based system and method recited by claims 4, 8, and 9 affords the delivery of program content, including commercials that may be specifically targeted for each and every user of the system. Such targeted delivery capability, as well as the desirability thereof, is completely absent from the Chen et al. teaching. In particular, the Chen et al. teaching is described as being particularly suitable for use at a cable system headend. By its very nature, a cable system provides identical program content to each of its subscribers. While the plural subscribers generally are located in a particular geographical area and so may share certain demographic characteristics, others, such as gender, are highly unlikely to be identical even within a very small area. The Examiner has pointed to PC 174, e.g. in Fig. 1. It is submitted,

however, that the device therein disclosed is connected via a cable system; it does not comprise any Internet or comparable communications protocol that is appointed for bi-directional communication. No other disclosure in Chen et al. is cited as disclosing bi-directional use of PC 174 or any other computer in the manner required by applicants' claims. Whereas the Chen et al. disclosure does not address this limitation, the bi-directional and individual connectivity of the Internet allow a system constructed according to claims 1-4 and 7-9 to provide targeted commercial segments having completely individualized content.

While Wachob suggests the possibility of selecting advertising based on a viewer's demographics, the implementation provided relies on a brute-force approach of distributing plural commercials to a user's premises and only there selecting which of a relatively few choices is to be provided only after the complication and expense of distribution has already been incurred. On the other hand, applicants' solution, as delineated by amended claims 4, 8, and 9, overcomes these limitations by use of an Internet-based system not disclosed or suggested by the art applied.

As discussed hereinabove in connection with the rejection of claims 1 and 7, applicants respectfully submit that when combining Wachob, Chen et al., and Capek et al., the totality of the resultant disclosure must be considered. While the Capek et al. patent suggests insertions that may be customized to a user, it also suggests additional features – that the insertions are triggered by random events – which teach away from the invention, defined by applicants' claims. It is accordingly submitted that modifying Chen et al. in light of Capek et al. and Wachob does not fairly disclose or suggest the invention recited by present claims 4, 8, and 9.

When compared to any method practiced in light of the combined teachings of the cited references, the method called for by present claims 4, 8 and 9 effects insertion of targeted advertising in a more controlled, predictable and tasteful manner, thereby better facilitating consummation of contractual arrangements. In addition, the method of applicants' claims provides for more satisfactory listening and viewing experiences, thereby presenting a program format far more likely to attract advertising revenue. These significant advantages are submitted to provide adequate basis for predicated patentability of amended claims 4, 8 and 9 over the cited references.

CONCLUSION

In light of the foregoing remarks, it is respectfully submitted that the interactive method for substituting replacement radio commercials in place of a plurality of broadcast radio commercial streams on an Internet radio program of claim 1, and the interactive system for substituting broadcast commercial streams of an Internet radio program stream, with replacement commercial streams of claim 7 are not disclosed or suggested by any combination of the art applied and meet the conditions for patentability. It is further submitted that claims 2-4 dependent from claim 1 and claims 8-9 dependent from claim 7, are patentable for at least the same reasons as their respective base claims.

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Reversal of the rejection of claims 1-4 and 7-9 under 35 USC §103(a), and allowance of the present application, are earnestly solicited.

Respectfully submitted,

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Appendix I
(Claims On Appeal)

Listing of Claims

Claim 1: An interactive method for substituting replacement radio commercials in place of a plurality of broadcast radio commercial streams on an Internet radio program broadcast by a radio station to an Internet hosting service based on user preferences indicating demographic, and personal preferences, comprising the steps of:

- (a) generating a plurality of replacement radio commercial streams of various predetermined time lengths, whereby each replacement radio commercial has an associated time length;
- (b) digitizing said replacement radio commercial streams and said associated time lengths;
- (c) storing in an array said digitized replacement radio commercial streams and said associated time lengths, said array stored at an Internet service provider;
- (d) maintaining user demographic information and user preferences;
- (e) marking each of said broadcast radio commercial streams with a digital marker by said radio station, said digital marker indicating the start and duration time of said broadcast radio commercial within said Internet radio program;
- (f) transmitting said marked Internet radio program stream to said Internet hosting service;
- (g) receiving of said marked Internet radio program stream by said Internet hosting service;
- (h) examining of said marked Internet radio program stream by said Internet hosting service;
- (i) detecting a digital marker of a commercial on said received Internet broadcast program stream;
- (j) reading the duration time, of said commercial, from said detected digital marker;
- (k) comparing said read duration time with said associated time lengths stored in said array;

- (l) selecting from said array a digitized replacement radio commercial having an associated time length equal to said read duration time to match said demographic information and said user preferences with said replacement commercial stream having an associated time length equal to said real duration time;
- (m) substituting said selected digitized replacement radio commercial stream in place of said broadcast commercial stream; and
- (n) repeating steps (h) through (l) until the end of said Internet radio program, whereby the listener of said Internet radio program stream receives an edited program stream having one or more replacement radio commercial streams substituted in place of said broadcast radio commercial.

Claim 2: A method as recited in claim 1 wherein said marking of broadcast radio commercial streams is performed by a radio station computer system, such as a broadcast automation system.

Claim 3: A method as recited in claim 2 wherein the audio stream of the radio station is digitized into packets bearing sequential serial numbers, and said marking of broadcast commercial streams by marking the start time and duration of the commercial identifies the audio packet serial numbers constituting the beginning and duration of the audio commercial to be replaced.

Claim 4: A method as recited in claim 1 wherein the Internet hosting service maintains commercial type information for targeting ads to consumers, and user demographic information, and matches said user demographics and personal preferences to said commercial type for selecting a commercial targeted to said user.

Claims 5-6 (canceled).

Claim 7: An interactive system for substituting broadcast commercial streams of an Internet radio program stream, with replacement commercial streams, comprising:

- (a) radio station means for marking said broadcast commercial streams of said Internet radio program with a mark, said mark indicating the start and time duration of said broadcast commercial stream;
- (b) input server means for receiving said marked Internet radio program stream by an Internet hosting service;
- (c) commercial storage means of said Internet hosting service for storing a plurality of digitized radio commercial streams and user preferences;
- (d) central processor means for selecting one of said digitized radio commercials from said commercial storage means matching said user preferences;
- (e) marker decoder means for decoding said mark, said mark being supplied to said central processor;
- (f) comparison means to select a digitalized radio commercial stream in place of said broadcast commercial stream;
- (g) central processor mixing means for generating an edited radio program stream by substituting said selected digitized radio commercial streams in place of said broadcast commercial stream; and
- (h) output server means for transmitting said edited radio program stream to a user.

Claim 8 (original): A system as recited by claim 7 wherein said commercial storage means further stores commercial type.

Claim 9 . A system as recited by claim 7 further comprising user profile storage means for storing individual user ID and user demographics, whereby said central processor employs said user ID to match said user demographics and said user preferences to said commercial type for selecting a commercial targeted to said user.

Claims 10-12 (canceled)